

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 1 and 3-5 are pending. Claim 1 is amended to include the features of now-canceled dependent Claim 2. Claim 2 is canceled without prejudice or disclaimer. Inasmuch as Claim 1 is amended to incorporate the features of a dependent claim, Applicants respectfully submit that no new issues are raised by the present amendment, and the present amendment should be entered in accordance with 37 C.F.R. § 1.116 as placing the application in better form for appeal. The title is amended in response to the objection to the title, and the Abstract is amended to delete reference numbers. No new matter is added.

In the outstanding Office Action, the title was objected to as not descriptive. Claims 1-5 were rejected under 35 U.S.C. § 103(a) as obvious over Terauchi (U.S. Patent No. 4,477,238, herein "Terauchi") in view of Nieter et al. (U.S. Patent No. 5,256,044, herein "Nieter").

Regarding the objection to the title as not descriptive, the title is amended to include more description. Accordingly, Applicants respectfully submit that the objection to the title is overcome.

Regarding the rejection of Claims 1-5 as obvious over Terauchi in view of Nieter, that rejection is respectfully traversed by the present response. As Claim 2 is canceled without prejudice or disclaimer, Applicants respectfully submit that any rejection of Claim 2 is negated.

Amended independent Claim 1 recites, in part:

A scroll compressor comprising:

a fixed scroll including a spiral wall standing on one side face of an end plate, and secured in place;

an orbiting scroll including a spiral wall standing on one side face of an end plate, and supported so as to be orbitally movable while being prevented from rotating, with the two walls engaged with each other, and

an elastic body pressing at least one of the fixed scroll and the orbiting scroll against the other scroll...

Accordingly, the scroll compressor includes an elastic body that presses at least one of the fixed scroll and orbiting scroll against the other scroll. One scroll is pressed against the other scroll by not only introducing fluid which is compressed by the fixed scroll and the orbiting scroll into a back pressure chamber, but also due to pressing by the elastic body.

One benefit of this arrangement is that plural back pressure chambers are not required, the compression chamber is securely sealed without undue reliance on tip seals, and leakage of fluid is reduced or prevented in the compression chamber.

In contrast, Terauchi describes a scroll type compressor including a fixed scroll (21) and an orbiting scroll (22) each including a stepped portion (S) and a transition portion (T) (see Figs. 4a, 4b, 5a, and 5b), and a discharge chamber (28) provided at the fixed scroll (21). Terauchi describes that axial sealing elements (217, 227) are retained in end grooves (218, 228) of spiral elements (212, 222) to effect axial sealing with end plates (22, 21), respectively (column 4, last line to column 5, line 3). Terauchi also describes that the sealing member (27) is disposed within the circumferential groove (215) on the circular end plate (211) for sealing the outer peripheral surface of circular end plate (211) to the inner wall of the cup-shaped casing (23).

However, Terauchi does not teach or suggest **an elastic body for pressing at least one of the fixed scroll and the orbiting scroll against the other scroll**. Furthermore, Terauchi does not disclose nor suggest that a back pressure chamber is provided on the other side face of the orbiting scroll.

Nieter describes a scroll compressor (10) including a dynamic back pressure chamber (25) and a static back pressure chamber (27) disposed behind an orbiting scroll (13) in order to improve axial compliance between a fixed scroll (11) and the orbiting scroll (13) with an object which is to increase the efficiency of scroll compressors by reducing frictional forces between the scrolls and counteracting the overturning moment. Nieter also describes that a flow of pressurized fluid is bled through ports (21, 23) into back chambers (25, 27), respectively and the fluid in these chambers produces back pressure which pushes the orbiting scroll (13) towards the fixed scroll (11) in order to reduce tip leakage and counteract overturning moment (column 4, lines 3 to 8). Nieter describes that the orbiting scroll (13) is mounted to the eccentric crank portion (17A) of the shaft (17) (column 3, lines 60 to 61; and Fig. 1).

However, Nieter do not disclose or suggest a step portion and a stepped shape, and an **elastic body for pressing at least one of the fixed scroll and the orbiting scroll against the other scroll.**

If the inventions of Terauchi and Nieter were combined, a person having ordinary skill in the art would design a scroll compressor comprising a sealing member for sealing the outer peripheral surface of a circular end plate to the inner wall of a casing, and a dynamic back pressure chamber and a static back pressure chamber disposed behind an orbiting scroll. In such a scroll compressor, the sealing member would effect only sealing, and pressurized fluid will be introduced into the dynamic and static back pressure chambers via two corresponding ports, and would produce back pressure which pushes one scroll towards the other scroll in order to reduce tip leakage and counteract overturning moment.

However, no proper combination of the cited references would include the elastic body as recited in amended independent Claim 1, that is, that the elastic body supports one scroll against a frame secured to a housing so as to float freely, and also presses one scroll

against the other scroll. Furthermore, a person of ordinary skill in the art, at the time the claimed invention was made, would not have found it obvious that one scroll is pressed against the other scroll by not only introducing fluid which is compressed by the fixed scroll and the orbiting scroll into a back pressure chamber (plural back pressure chambers are not necessary), but also due to pressing by the elastic body.

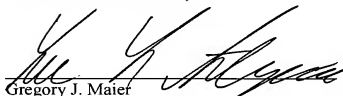
Accordingly, Applicants respectfully submit that amended independent Claim 1 and Claims 3-5 depending therefrom patentably distinguish over any proper combination of Terauchi and Nieter for at least the reasons discussed above.

For the foregoing reasons, it is respectfully submitted that this application is now in condition for allowance. A Notice of Allowance for Claims 1 and 3-5 is earnestly solicited.

Should Examiner Trieu deem that any further action is necessary to place this application in even better form for allowance, she is encouraged to contact Applicants' undersigned representative at the below-listed telephone number.

Respectfully submitted,

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